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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/628,238	07/29/2003	Weijing Chen	P23664. (SBC T00513)	4754
7055 7590 04/04/2007 GREENBLUM & BERNSTEIN, P.L.C. 1950 ROLAND CLARKE PLACE RESTON, VA 20191			EXAMINER WILSON, ROBERT W	
			ART UNIT	PAPER NUMBER
			2616	
SHORTENED STATUTORY PERIOD OF RESPONSE		NOTIFICATION DATE	DELIVERY MODE	
3 MONTHS		04/04/2007	ELECTRONIC	

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

10/628,238

Applicant(s)

CHEN ET AL.

Examiner

Robert W. Wilson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-3 and 18-20 is/are allowed.
- 6) ☒ Claim(s) 4-10 & 13- 15 is/are rejected.
- 7) ☒ Claim(s) 11,12,16 and 17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 11/17/05, 4/28/04, & 10/29/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

Allowable Subject Matter

1. Claims 1-3 & 18-20 are allowed. The following is an Examiner's statement of reasons for allowance: Claims 1-3 & 18-20 are considered allowable since when reading the claims in light of the specification, none of the references of record alone or in combination disclose or suggest the combination of limitations specified in the independent claims including:

“when the destination device address is not mapped to the egress line interface address, broadcasting the network layer packet to a multicast address associated with the VPN layer, as specified in claim 1.

“when an address of the destination device address is not mapped to the destination LAN encapsulating the data in a multicast packet, having the unique address of the ingress interface as a source address and the multicast address as a destination address”, as specified in claim 18.

2. Claims 11-12 & 16-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 7-10 & 15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Referring to claims 7-10 & 15, what is meant by an optional header. Because the applicant is claiming an optional header anything that the optional header reflects intended use and therefore these limitations are indefinite because it is not clear whether the header will be present or not present.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Killian (US Patent No.: 5,940,394) in view of Blanchet (Patent Pub. No.: US2004/0013130)

Referring to claim 4, Killian teaches: a method for providing broadband access to a virtual private network (VPN), the VPN comprising a plurality of local area networks (LANs) configured to interface with an IPv6 service provider network through broadband access links (Method is performed per Fig 3) the method comprising:

encapsulating a LAN frame from an originating LAN of the VPN in an IPv6 packet of the service provider network (packet (LAN Frame) which is IPv4 per Fig 5 originating from a subnetwork 303 per Fig 3 (LAN) of namespace A (VPN) where all WAN networks are inherently provided by a service provider per col. 5 lines 10 to 41)

adding a VPN Identification number corresponding to the VPN to the IPv6 packet routing the IPv6 packet through the service provider network verifying the VPN identification number (A Header which has the Source and destination address of subnetwork (VPN) is added as a part of the encapsulation process associated with the IPv4 packet per col. 10 lines 10 to 41)

decapsulating the LAN frame when the VPN identification number is verified
And transmitting the decapsulated LAN frame to the destination LAN (The decapsulator uses the VPN header which has the destination address of decapsulator to determine if the packet header should be removed or decapsulated or verifying the VPN ID per col. 10 lines 10 to 41)

Killian does not expressly call for: IPv6

Blanchet teaches: IPv6 per Pg 1 Para [005]

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the IPv6 packet of Blanchet in place of the IPv4 packet of Killian because IPv4 address space is running out and all IPv4 systems will eventually have to be replaced with IPv6 in order to withstand the growth associated with the Internet.

In addition Killian teaches:

Regarding claim 6, the combination of McDysan, Killian, and Blanchet taught broadband access to the VPN and IPv6 address and additional Killian teaches a destination address in the packet which corresponds to the source address of the ingress line per col. 5 lines 10 to 40

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Regarding claim 7, the combination of McDysan, Killian, and Blanchet taught broadband access to the VPN and IPv6 address and additionally Killian teaches VPN identification in the header which the examiner interprets as an optional header extension per col. 5 lines 10 to 40

Referring to claim 8, the combination of McDysan, Killian, and Blanchet teach: the method for providing a broadband extension according to claim 7 and VPN identification number in the header

The combination of McDysan, Killian, and Blanchet do not expressly call for: VPN identification number to be four octets.

The examiner takes official notice four octet encoding in a header is well known in the art.

It would have been obvious to add four octet encoding to the header for the VPN identification number of the combination of McDysan, Killian, and Blanchet in order to build a header which is an arbitrary design choice .

Referring to claim 9, the combination of McDysan, Killian, and Blanchet teach: the method for providing a broadband extension according to claim 7 and destination address of the egress line in the header.

The combination of McDysan, Killian, and Blanchet do not expressly call for: discarding a packet based upon not recognizing the destination address.

The examiner takes official notice that discarding a packet based upon not recognizing the destination address is well known in the art.

It would have been obvious to discarding of a packet based upon destination address to the system of combination of McDysan, Killian, and Blanchet in order to remove unwanted packets which create congestion unnecessarily in the network.

7. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Killian (US Patent No.: 5,940,394) in view of Blanchet (Patent Pub. No.: US2004/0013130) further in view of Matshira (Patent Pub No.: US2003/0088697)

Referring to claim 5, the combination of Killian and Blanchet teach: the system for providing broad band access to the VPN according to claim 13 and wherein the second interface verifies the VPN ID number.

Killian and Blanchet do not expressly call for: discarding the packet based upon VPN ID number when the VPN ID is not verified

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Matsuhira teaches: discarding the packet based upon VPN ID number when the VPN ID number is not verified per Pg 4 Para [0068]

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the discarding the packet based upon VPN ID number when the VPN ID is not verified of Matsuhira to the system of the combination of Killian and Blanchet in order to build a system removes packet which have no relationship to the VPN of interest thus removing unneeded congestion.

8. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Killian (US Patent No.: 5,940,394) in view of Blanchet (Patent Pub. No.: US2004/0013130) further in view of Nesset (U.S. Patent No.: 6,055,236)

Referring to claim 10, the combination of Killian and Blanchet teach: the method for providing a broadband extension according to claim 7 and a header.

The combination of Killian and Blanchet do not expressly call for: hop count in the header.

Nessett teaches: hop count in the header (hop count replaces TTL in Fig 15)

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the hop count in the header of Nessett to the header of the system of the combination of Killian and Blanchet in order to keep track of the life of the packet.

9. Claims 13 & 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over McDysan (U.S. Patent Pub. No.: US2003/0115480) in view Killian (US Patent No.: 5,940,394) in further view of Blanchet (Patent Pub. No.: US2004/0013130)

Referring to Claim 13, McDysan teaches: a system for providing broadband access to the virtual private network (VPN) comprising a plurality of local area networks (LAN) configured to interface with an Ipv6 service provided network (Figure 4, the system comprising:

A plurality of interface device in the service provider network, each interface device comprising at least one line interface each line interface being connectable to at least one of the plurality of LANs by a broadband link (BRs associated with Best Effort IP VPN are the plurality of interface devices on a public network or service provider network per Fig 4. Line interface connection is

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the combination of connection from 42a through the access network including 35a to CPE ER per Fig 4 which the examiner has interpreted as a broadband link)

Wherein a first interface device receives a LAN frame from a first LAN at an ingress line interface corresponding to the first LAN (BR 42a is the first interface device which receives a L2 or LAN frame via connection from 42a through the access network including 35a to CPE ER per Fig 4 or first ingress line and outputs an IPv4 packet)

Wherein the second interface device receives a IPv4 packet at an egress line interface corresponding to the second LAN (BR (42b per Fig 4) is the second interface device receives an IPv4 packet on inherent port connected to the Best Effort Public Network or egress line interface)

McDysan does not expressly call for: first interface device to modify the LAN frame in an IPv6 packet and adds a VPN identification number corresponding to the VPN to the IPv6 packet, the LAN frame being directed to a second LAN; and wherein a second interface device receives the IPv6 packet at an egress line interface corresponding to the second LAN verifies the VPN identification number, Decapsulates the LAN frame when VPN identification number is verified and transmits the LAN frame to the second LAN.

Killian teaches: first interface device modifies the LAN frame in an IPv4 packet and adds a VPN identification corresponding to the VPN of the IPv4 packet (packet (LAN Frame) which is IPv4 per Fig 5 originating from a subnetwork 303 per Fig 3 (LAN) of namespace A (VPN) per col. 5 lines 10 to 41)

the LAN frame being directed to a second LAN; and wherein a second interface device receives the IPv6 packet at an egress line interface corresponding to the second LAN verifies the VPN identification number (The encapsulated packet which is an encapsulated LAN frame is directed to the decapsulator via the destination address which also corresponds to the egress line interface per col. 10 lines 10 to 41)

Decapsulates the LAN frame when VPN identification number is verified and transmits the LAN frame to the second LAN (The decapsulator uses the VPN header which has the destination address of decapsulator to determine if the packet header should be removed or decapsulated or verifying the VPN ID per col. 10 lines 10 to 41)

It would have been obvious to one of ordinary skill in the art at the time of the invention to add : first interface device to modify the LAN frame in an IPv6 packet and adds a VPN identification number corresponding to the VPN to the IPv6 packet, the LAN frame being directed to a second LAN; and wherein a second interface device receives the IPv6 packet at an egress line interface corresponding to the second LAN verifies the VPN identification number, Decapsulates the LAN frame when VPN identification number is verified and transmits the LAN frame to the second LAN processing of Killian to the first and second interface devices of McDysan in order to perform VPN processing over the network.

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The combination of McDysan and Killian do not expressly call for: IPv6

Blanchet teaches: IPv6 per Pg 1 Para [005]

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the IPv6 packet of Blanchet in place of the IPv4 packet of McDysan and Killian because IPv4 address space is running out and all IPv4 systems will eventually have to be replaced with IPv6 in order to withstand the growth associated with the Internet.

Regarding claim 15, the combination of McDysan, Killian, and Blanchet taught broadband access to the VPN and IPv6 address and additionally Killian teaches VPN identification in the header which the examiner interprets as an optional header extension per col. 5 lines 10 to 40

10. Claim 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over McDysan (U.S.

Patent Pub. No.: US2003/0115480) in view Killian (US Patent No.: 5,940,394) in view of

Blanchet (Patent Pub. No.: US2004/0013130) further in view of Matsuhira (Patent Pub No.:

US2003/0088697)

Referring to claim 14, the combination of McDysan, Killian, and Blanchet teach: the system for providing broad band access to the VPN according to claim 13 and wherein the second interface verifies the VPN ID number.

McDysan, Killian, and Blanchet do not expressly call for: discarding the packet based upon VPN ID number when the VPN ID is not verified

Matsuhira teaches: discarding the packet based upon VPN ID number when the VPN ID number is not verified per Pg 4 Para [0068]

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the discarding the packet based upon VPN ID number when the VPN ID is not verified of Matsuhira to the system of the combination of McDysan, Killian, and Blanchet in order to build a system removes packet which have no relationship to the VPN of interest thus removing unneeded congestion.

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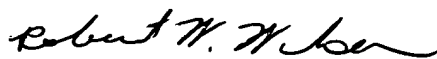
Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert W. Wilson whose telephone number is 571/272-3075.

The examiner can normally be reached on M-F (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy D. VU can be reached on 571/272-73155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Robert W Wilson
Examiner
Art Unit 2616

RWW
3/29/07